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September 8, 1981

United States  
Department of  
Environmental Protection

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## Part IV

# Environmental Protection Agency

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Hazardous Waste Management System;  
Identification and Listing of Hazardous  
Waste



R00354318  
RCRA RECORDS CENTER

ENVIRONMENTAL PROTECTION  
AGENCY

## 40 CFR Part 261

[SWH-FRL 1890-1]

Hazardous Waste Management  
System: Identification and Listing of  
Hazardous WasteAGENCY: Environmental Protection  
Agency.ACTION: Interim final rule and request  
for comments.

**SUMMARY:** The Environmental Protection Agency (EPA) is today amending the regulations for hazardous waste management by conditionally exempting spent pickle liquor (which is hazardous waste) from the requirements of the regulations. This exemption applies to facilities which reuse spent pickle liquor, to generators and brokers who accumulate spent pickle liquor, and to those who transport spent pickle liquor, where in all cases the spent pickle liquor is to be reused in wastewater treatment at a facility holding a National Pollution Discharge Elimination System (NPDES) permit. EPA is taking this action because the management of spent pickle liquor before reuse in wastewater treatment does not appear to pose a substantial hazard to human health or the environment and because the objectives of the hazardous waste regulations appear to be met without imposition of explicit regulations. This amendment will reduce the regulatory burden to those individuals who reuse spent pickle liquor in wastewater treatment and now comply with the requirements of the hazardous waste management regulations. This amendment will also encourage more spent pickle liquor to be reused.

**DATES:** Interim final rule effective September 8, 1981; the Agency will accept comments until November 9, 1981.

**ADDRESS:** Comments should be sent to the Docket Clerk, Office of Solid Waste (WH-565), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460. Communications should identify the regulatory docket number "section 3001/Spent Pickle Liquor Reuse".

**FOR FURTHER INFORMATION CONTACT:** RCRA Hotline at (202) 554-1404 or toll-free at (800) 424-9346. For technical information contact Matthew Straus, Office of Solid Waste (WH-565), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. (202) 755-9187.

## SUPPLEMENTARY INFORMATION:

## I. Background

Under Subtitle C of the Resource Conservation and Recovery Act of 1976, as amended, EPA has issued regulations for hazardous waste management. These regulations are published in the *Code of Federal Regulations* (CFR) at 40 CFR Parts 260-267 and 122-124. In these regulations, EPA has given special consideration to hazardous wastes which are used, reused, recycled or reclaimed. These specific provisions are found in § 261.6 of the regulations.

EPA presently is considering a revised approach to regulation of hazardous wastes which are used, reused, recycled or reclaimed. It will be some months, however, before EPA can promulgate and implement revised regulations. In the interim, the Agency wishes to remove certain restrictions on the reuse of certain hazardous wastes which are now regulated substantively under the Subtitle C regulations. These reuses are not likely to be regulated under a revised regulatory approach, and in any case probably can be conducted safely outside the Subtitle C regulatory framework.

One such reuse is the reuse of spent pickle liquor—EPA hazardous waste No. K062—in treatment of wastewater. Spent pickle liquor is generated in the pickling of iron and steel products prior to the application of a final surface coating or finish. The pickling process involves immersion of the iron or steel product in a heated solution of concentrated acid (or acids) to remove undesirable surface characteristics such as rust, scale, and grease, etc. The residual waste liquor is highly corrosive (pH < 1) and also is contaminated with toxic metals (that is, hexavalent chromium, lead, and nickel).

Spent pickle liquor often is used beneficially in wastewater treatment. Its principal function is as a phosphorus precipitant, and it also is used as a sludge conditioner. Pickle liquor so reused is as effective, and in some cases more effective, than commercial chemicals used for the same purpose. (1, 2) One of these commercial chemicals, ferric chloride, can be virtually as corrosive and as metal-contaminated as spent pickle liquor (and is sometimes more so) (3), and so presents a similar environmental risk of safekeeping prior to use. (Another principal phosphorus precipitant, aluminum sulfate ("alum") is also quite corrosive although somewhat less so than either ferric chloride or spent pickle liquor.)

Reuse of spent pickle liquor in wastewater treatment already is relatively widespread and could be expected to increase as facilities seek a

less costly alternative to the use of commercial chemicals. Most facilities presently engaging in this reuse are Publicly Owned Treatment Works (POTWs), but private facilities also are starting to reuse this material. Furthermore, the Agency believes it a fair inference that more private facilities would reuse spent pickle liquor in wastewater treatment if they did not have to comply with the RCRA recordkeeping requirements and obtain hazardous waste storage permits.

The volume of spent pickle liquor reused in wastewater treatment is substantial, estimated by the Agency at up to 50 million gallons annually (roughly 5 percent of the total amount generated). Individual wastewater treatment facilities likewise handle significant volumes of the material. For example, the Blue Plains facility, a large POTW in the Washington, D.C. area, reuses 45,000 gallons per day of Bethlehem Steel's spent pickle liquor. (4)

Spent pickle liquor is marketed in a number of ways. Generators often arrange directly with wastewater treatment facilities for the delivery of the spent pickle liquor. Generators may provide transportation of the material to the facility, or hire an independent transporter. In some situations, the cost of transportation is divided between the facility and the generator, and in other cases the facility pays the generator to obtain the material. In some cases, generators will employ brokers to find a user for their spent pickle liquor. In these situations, the broker may take possession of the spent pickle liquor prior to transport to the wastewater treatment facility. In other cases, the broker may act as transporter or hire a transporter to ship the material to the facility. Some brokers also take possession of spent pickle liquors from a number of generators, blend them and sell the resulting mixture to wastewater treatment facilities. (5)

Reuse of spent pickle liquor generally results in significant cost savings to both generators and user facilities. Generators save treatment or disposal costs, which may be quite high, particularly in light of the volumes of the waste which are reused and otherwise would have to be treated or disposed of. User facilities save the cost of alternative commercial chemicals, which again are very high. Blue Plains' personnel estimate annual savings from reuse of spent pickle liquor at \$1.2 million annually. (4)

In sum, reuse of spent pickle liquor in wastewater treatment is a well-recognized technology and is becoming widespread. It provides significant

environmental benefits from the standpoint of wastewater treatment, hazardous waste management, and resource conservation and recovery. Potential cost savings from this reuse are substantial, and there is a further energy saving since raw materials are not being consumed. Moreover, the Agency is not aware of any damage incidents resulting from reuse of spent pickle liquor for wastewater treatment (although there have been damage incidents from improper disposal of spent pickle liquor (6)). The Agency thus believes it should amend the current regulations to encourage this desirable reuse.

## II. The Current Regulatory Structure Affecting Reuse of Spent Pickle Liquor in Wastewater Treatment

The current RCRA regulatory structure controlling spent pickle liquor reuse varies somewhat depending upon whether the ultimate reuser is a POTW or a private wastewater treatment plant. POTWs, under § 122.26(c) of the regulations, have a RCRA permit-by-rule to accept hazardous wastes (including spent pickle liquor) provided they comply with certain of the Subtitle C administrative standards. Private facilities and brokers who accumulate spent pickle liquor prior to reuse, on the other hand, are required to comply with the Subtitle C standards applicable to storage facilities (see § 261.6(b)). Generators of this waste are subject to the Part-262 generator requirements, including the § 262.34 requirements for spent pickle liquor accumulated on-site for less than 90 days. This provision requires the generator to comply with certain of the Part 265 technical and administrative requirements applicable for storage facilities storing wastes in containers or in tanks. Generators accumulating spent pickle liquor for over 90 days must obtain a permit as a hazardous waste storage facility. Finally, transporters of the waste are subject of the Part 263 transporter requirements.

The Agency has received information, and finds it reasonable to believe, that these provisions discourage reuse of spent pickle liquor, particularly when a private wastewater treatment plant is involved. Such facilities presently have to obtain site specific storage permits if they wish to reuse this material. Moreover, some facilities wishing to reuse the material for the first time will not be eligible for interim status, and so will have to obtain a storage permit prior to engaging in the reuse.

The Agency believes that although the Subtitle C regulatory requirements are needed to adequately protect human

health and the environment in many reuse contexts, these requirements are not needed when spent pickle liquor is reused in wastewater treatment. The remainder of this preamble sets out the Agency's basis for this conclusion and describes its revised regulatory scheme.

## III. Revised Regulatory Scheme

### A. The Decision Not to Impose Substantive Storage Requirements

EPA has determined that reuse of spent pickle liquor in wastewater treatment does not require substantive regulation under the RCRA Subtitle C regulations, provided the reuse occurs at a facility holding a National Pollution Discharge Elimination System (NPDES) permit. The Agency is taking this step in part to encourage a desirable reuse, but also because the objectives of the Subtitle C regulations appear to be met without imposition of explicit regulations. The hazardous waste regulations which are applicable to reused materials seek to assure secure storage prior to reuse, and proper tracking of the reused material from the generator to the point of final reuse. A number of factors tend to assure proper storage of spent pickle liquor which is reused in wastewater treatment. First, since spent pickle liquor is corrosive, it must be stored in special corrosion-resistant tanks; it will otherwise corrode through most conventional metal tanks and do extensive damage to the physical plant and to exposed workers. Thus, the risks of improper containment are so high and so immediately obvious that every effort is typically made to ensure secure storage. In fact, spent pickle liquor normally is stored in specialized tanks made of fiberglass reinforced with a plastic liner, a rubber liner or brick coating. (3,4,7)<sup>1</sup>

There is little risk of significant overaccumulation of the pickle liquor prior to reuse. Because the volumes of spent pickle liquor involved are so large (up to tens of thousands of gallons daily per facility), storage capacity available at any facility handling the material—whether the generator, an intermediate broker, or the user facility—is usually far less than the amount of spent pickle liquor handled over time.

Thus, there is a strong incentive to assure constant turnover of the material. These facilities' only alternative would be to add huge amounts of storage capacity, an unrealistic option because of the costs of specialized tanks and land. Retention time of the material at most facilities actually averages only a

few days, and in some cases, hours (5). In addition, reusing facilities have a further strong incentive to ensure material turnover, since they must reuse the spent pickle liquor in order to comply with their NPDES permit limitations.

In considering whether any storage requirements should be imposed on this reuse, the Agency also is aware that the commercial chemical for which spent pickle liquor often substitutes in wastewater treatment—ferric chloride—is equally hazardous, but is not subject to RCRA regulation (it is not a waste). In this type of situation, the Agency hesitates to assert regulatory control over storage of spent pickle liquor when facilities may well turn to the equally corrosive and metal-contaminated ferric chloride under the same conditions and not be subject to RCRA regulation. This factor takes on particular importance when there appears to be adequate assurance of secure storage of the spent pickle liquor in any case. In addition, the facilities are aware of the problems of properly storing corrosive reagents such as ferric chloride, and so already have the equipment and know-how to handle spent pickle liquor properly.

With regard to storage of spent pickle liquor, therefore, the Agency believes that human health and the environment are adequately protected without imposition of regulatory standards. Existing storage practices already appear to satisfy the RCRA tank design standards. There is minimal risk of overaccumulation of the spent pickle liquor. The Agency also notes that as a practical matter many generators of spent pickle liquor will remain subject to most applicable Subtitle C regulations dealing with waste storage (particularly § 262.34) because they commingle the spent pickle liquor destined for reuse with spent pickle liquor destined for disposal. Thus, some measure of regulatory control is maintained for storage of the material at these facilities. In sum, the Agency does not believe that imposition of storage standards is needed to control spent pickle liquor being reused, or being accumulated for reuse, in wastewater treatment at NPDES-permitted facilities.

### B. The Decision Not To Impose Tracking Standards

EPA also does not believe that it is necessary to impose tracking (i.e. manifest) or related administrative requirements on persons handling spent pickle liquor for reuse, or prior to its reuse, in wastewater treatment at NPDES facilities. In part, this is because the material is needed by the user

<sup>1</sup> Pickle liquors containing low concentrations of acid may, however, feasibly be stored in some metal-lined tanks.

facility as a commodity for its wastewater treatment operations, and the facility will be unable to meet its NPDES permit obligations unless it receives the material. The facility thus has a strong incentive to assure that its shipments arrive safely.

Furthermore, the spent pickle liquor meets the Department of Transportation's definition of a corrosive hazardous material and so in most cases (that is, all those involving an interstate shipment or an interstate carrier) must be shipped in compliance with Department of Transportation hazardous materials regulations, which specify standards for placarding, labeling, marking, and packaging. In addition, each shipment of the material must be accompanied by a DOT shipping paper containing a description of the material, its destination and other pertinent information. These requirements, coupled with the material's use as a commodity appear to the Agency to provide reasonable assurance that the spent pickle liquor will be transported safely to and arrive at the user facility.

The Agency also does not believe it necessary to impose any reporting requirements on NPDES facilities engaging in reuse of the spent pickle liquor, or on persons accumulating spent pickle liquor prior to such reuse. Since the reuse itself is well documented and understood, the Agency sees no gain from imposing these administrative requirements.

### C. The Revised Regulation

EPA has therefore determined that spent pickle liquor reused in wastewater treatment at an NPDES facility does not require regulation under the RCRA Subtitle C waste management system. The Agency is amending § 261.6(a) of the regulations to indicate that spent pickle liquor, when so reused, may be managed without regulation.

EPA, under section 6002 of RCRA, also is considering the development of a procurement guideline for the reuse of spent pickle liquor in wastewater treatment for the purpose of phosphorous removal. Such a guideline, if implemented, would allow procuring agencies using Federal funds to purchase chemicals for the purpose of phosphorous removal in wastewater treatment, and would encourage spent pickle liquor to be bid as an alternate material for reuse. The guideline would not apply if spent pickle liquor is unavailable (or if its reuse would be technically inappropriate for a particular treatment operation). This guideline may not appear until after the close of the comment period to the present

regulation, so EPA desires comments on the general appropriateness of a procurement guideline to be submitted along with other comments to this regulation.

### D. Recordkeeping

By this amendment, the Agency is deleting any regulatory requirements for keeping records which document that spent pickle liquor is in fact being reused, or is destined for reuse, at an NPDES facility. However, in any enforcement proceeding, the burden to show that the spent pickle liquor is actually being accumulated or reused for this purpose rests on the person making the claim. Documentation substantiating the claim may include shipping papers, bills of lading or other records showing a contractual agreement among the generator, transporter, broker or NPDES facility.

### E. Interim Final Promulgation and Effective Date of Regulation

EPA has determined under section 553 of the Administrative Procedure Act, 5 U.S.C. 553, that there is good cause for promulgating these amendments without prior notice and comment. This amendment lessens the regulatory burden on the public, and will have the effect of encouraging a desirable reuse. Delay could result in unnecessary expense for NPDES facilities which otherwise would reuse spent pickle liquor in their wastewater treatment operations. If promulgation is delayed, generators would have to dispose of a material which otherwise can be used beneficially. Furthermore, the Agency believes that human health and the environment will not be harmed, and in fact will benefit by this reuse. Under these circumstances, EPA believes good cause exists to promulgate these rules without prior notice and comment. (Readers will, of course, have ample opportunity to comment on these amendments before they are issued in "final final" form.)

EPA also is providing that these regulations take effect immediately. Although section 301(b) of RCRA provides that EPA hazardous waste regulations take effect six months after their promulgation, the purpose of this requirement is to allow persons handling hazardous waste sufficient lead time to prepare to comply with new regulatory requirements. This rationale ordinarily is inapplicable when a rulemaking is deregulatory in effect. Further, the Agency has determined that the current regulatory standards may discourage a desirable type of reuse, so that immediate effectiveness of this amendment promotes RCRA's material

recovery goals. The Agency therefore believes that delaying this regulation's effective date would be counterproductive, and has decided to opt for immediate effectiveness.

### F. Compliance With Executive Order 12291

Under Executive Order 12291, EPA must determine whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. The present regulation reduces burdens, and therefore is not a major regulation under the Executive Order. For the same reason this regulation will not have a significant economic impact on a number of small entities and therefore, does not require a Regulatory Flexibility Analysis. This regulation was submitted to the Office of Management and Budget for review as required by the Executive Order.

Dated: August 28, 1981.

John W. Hernandez, Jr.,  
Acting Administrator.

### References

1. Kerecz, Mohr, and Jones (1980) "Use of Spent Pickle Liquor to Remove the Phosphates in Municipal Sewage Treatment Plants."
2. Ernest, Birner and Munsey, "Eight Years of Successful Phosphorus Removal in an Activated Sludge Plant Treating 140 M.G.D.," presented at Central States Water Pollution Control Association 52d Annual Conference, Pheasant Run, Illinois (1979). (It should be noted that many additional references for this point are available. The Agency is citing two which are illustrative.)
3. U.S. EPA, "Process Design Manual for Phosphorus Removal" Chapter 10, EPA 625/1-76-001a (1976).
4. Personal Communication of Agency staff with Ed Jones III, Chief Process Engineer, Blue Plains Wastewater Treatment Plant (May, 1981).
5. Personal Communication of Agency staff with American Iron and Steel Institute, Office of Environmental Affairs, May 21, 1981.
6. U.S. EPA, Hazardous Waste Listing Background Document for Spent Pickle Liquor (1980).
7. Personal Communications of Agency staff with Reiss, Inc., By-products Management, Inc., and Conservation Chemicals, Inc., all waste exchange brokers handling spent pickle liquor (June, 1981).

For the reasons set out in the preamble, Title 40 of the Code of Federal Regulations is amended as follows:

### PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

1. The authority citation for Part 261 reads as follows:

Authority: Secs. 1006, 2002(a), 3001 and 3002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and

Recovery Act of 1976; as amended (42 U.S.C. 6905, 6912(a), 6921 and 6922).

2. Section 261.6 is amended by revising paragraph (a) and the introductory text of paragraph (b) and by adding paragraph (a)(3)(i) to read as follows:

**§ 261.6 Special requirements for hazardous waste which is used, reused, recycled or reclaimed.**

(a) Except as otherwise provided in paragraph (b) of this section, a hazardous waste which meets any of the following criteria is not subject to regulation under Parts 262 through 265

or Parts 122 through 124 of this Chapter and is not subject to the notification requirements of Section 3010 of RCRA until such time as the Administrator promulgates regulations to the contrary:

(3) It is one of the following materials being used, reused, recycled or reclaimed in the specified manner:

(i) Spent pickle liquor which is reused in wastewater treatment at a facility holding a National Pollutant Discharge Elimination System (NPDES) permit, or which is being accumulated, stored, or

physically, chemically or biologically treated before such reuse.

(b) Except for those wastes listed in paragraph (a)(3) of this section, a hazardous waste which is a sludge, or which is listed in Subpart D, or which contains one or more hazardous wastes listed in Subpart D; and which is transported or stored prior to being used, reused, recycled or reclaimed is subject to the following requirements with respect to such transportation or storage:

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